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REMARKS/ARGUMENTS

The Examiner has rejected claims 1, 3, 13, 15, 25, 27, 32, 37, 39, 44 and 45 under 35 USC 103(a) as being obvious in view of Fatehi *et al.* (U.S. Patent No. 6,535,313) in combination with Hughes *et al.* (U.S. Patent No. 6,747,971).

Regarding the five independent claims of this application, namely claims 1, 13, 25, 37 and 44, the Examiner has asserted that Fatehi teaches the distribution of M data signals across N channels in Fig. 5 and in column 7, lines 10-24 and lines 5-10. The Examiner has also asserted that Hughes teaches the distribution of each one of M data signals across the N channels such that a substantially equal proportion of each data signal is conveyed through each one of the N channels in Fig. 3, in column 5, lines 56-67 and in column 6, lines 1-26.

With respect, Applicants strongly disagree with the Examiner's characterization of Fatehi and Hughes as together teaching all of the limitations of the claims of the present application. Specifically, and as will be shown below, it is respectfully submitted that Fatehi does not teach the distribution of M data signals across N channels. Furthermore, as will also be shown below, it is respectfully submitted that Hughes does not teach the distribution of each one of M data signals across the N channels such that a substantially equal proportion of each data signal is conveyed through each one of the N channels.

First, with regard to Fatehi, this reference teaches an optical modulator employing a standard M x N space switch. With reference to Fig. 5 and column 7, lines 10-24 and lines 5-10, the optical modulator receives M electronic data streams from data sources 102 which are each buffered in elastic buffers 402. An M x N electronic space switch 403 performs standard switching/routing of the various inbound data signals. In other words, the electronic space switch routes individual data signals from data sources 102 by switching them from an inbound channel to an outbound channel. However, the M x N space switch or any other component in Fatehi *does not cut up each data signal for distribution across the N channels* as is required by the claims of the present application.

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In other words, an $M \times N$ space switch does not perform equalization by equally divvying up each of M data signals across the N channels.

After exiting the electronic space switch, the outbound electronic data signals in Fatehi pass through standard E/O converters 504 and then the various optical channels (wavelengths) are multiplexed in a known manner (at 510) to form an outbound optical signal 104.

Fatehi's invention is simply to monitor network traffic (e.g. to check how full the buffers are) and to allocate a variable number of optical channels to best cope with the incoming traffic. As shown in Fig. 5, a demand estimator 407 monitors the buffers, sends a signal to the system control 420 which, in turn, controls the space switch 403 to ensure that inbound data signals are switched onto the optimal number of outbound channels for subsequent E/O conversion. In Fatehi, each incoming data signal is not cut up, severed or otherwise divided for even distribution across N channels. Rather, Fatehi merely uses a known space switch and a known multiplexer to first switch incoming data signals and then to "mux" them together.

Nowhere in Fatehi, and certainly not in the passages cited, does this reference teach or otherwise suggest that each of the M data signals are cut up and spread over N channels.

Since Fatehi does not teach distributing portions of each of M data signals over N channels, it is respectfully submitted that the first basis upon which this *prima facie* case of obviousness rests is ill-founded.

Now, with regard to Hughes, this reference teaches in Fig. 3, in column 5, lines 56-67 and in column 6, lines 1-26 a switch fabric 305 in which data in packets (or "cells") arrives through ingress ports 304 and leaves through egress ports. The switch fabric performs standard switching of signals from ingress to egress ports in accordance with service requests. A request controller sends eight "switch frames" 315 on every clock tick. Each "switch frame" contains service requests for selected cells queued in the ingress port. There is one egress port for each unicast queue but for multicast cells, they are all binned together in a multicast queue in order to enable the switch to handle more traffic load before dropping cells. With respect, this technique has nothing to do with the present

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invention, which is concerned with *equalization*. Nowhere in the cited passages does Hughes teach or even suggest the divvying up of each data signal and the even spreading of the divvied-up data signals across N different channels such that a substantially equal portion of each data signal is transported over each of the N channels. Therefore, Hughes does not teach equalization of M data signals over N channels by evenly distributing portions of each of the M data signals over the N channels.

In summary therefore, the combination of Fatehi and Hughes fails to teach all of the elements of the rejected claims. Accordingly, it is respectfully submitted that the obviousness rejection of claims 1, 3, 13, 15, 25, 27, 32, 37, 39, 44 and 45 is improper and should be withdrawn.

The Office Action has further rejected claims 2, 14, 26 and 38 as being obvious in view of Fatehi combined with Puc *et al.* (U.S. Patent No. 6,452,707). With respect, it is believed that the Examiner meant to also include the Hughes reference as the grounds for this rejection since Fatehi and Puc would not, by the Examiner's own reasoning, teach all of the elements of the base claims upon which these rejected claims depend. Accordingly, Applicants have treated this rejection as being based upon the combination of Fatehi, Hughes and Puc. However, the point is now believed to be moot in view of the foregoing arguments in which Applicants have established that Fatehi and Hughes do not teach what this Office Action asserts that they teach. Accordingly, since all the elements of base claims 1, 3, 15, 25, 37, and 44 are not taught by the combination of Fatehi and Hughes, it logically follows that dependent claims 2, 14, 26 and 38 cannot be held to be obvious by merely adding Puc to the mosaic. Puc does not provide the missing elements described above. For the purposes of this argument, Puc at most teaches FEC, as noted by the Examiner. Accordingly, the obviousness rejection of claims 2, 14, 26 and 38 is improper and should be withdrawn.

The Office Action has further rejected claims 4-12, 16-24, 28-31, 33-36, 40-43 and 46-49 as being obvious in view of the combination of Fatehi, Hughes and Brown (U.S. Patent No. 6,754,211). These rejections are predicated on the erroneous assumption that Fatehi and Hughes combine to provide all of the limitations of the base

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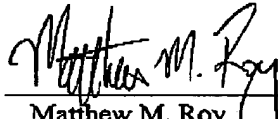
claims. Since this has been shown not to be true, Applicants respectfully submit that the obviousness rejection of these claims is improper and should be withdrawn.

In light of the foregoing arguments, it is respectfully submitted that the claims are now in a condition for immediate allowance. Applicants therefore respectfully solicit the prompt issuance of a Notice of Allowance.

If any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this response, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 19-5113.

Respectfully submitted,

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